





PCG-GRT99S PCG-GRT280ZG/GRT290ZP/GRT290Z PCG-GRT40ZP/GRT40ZLP/GRT40ZTP/GRT40ZCP

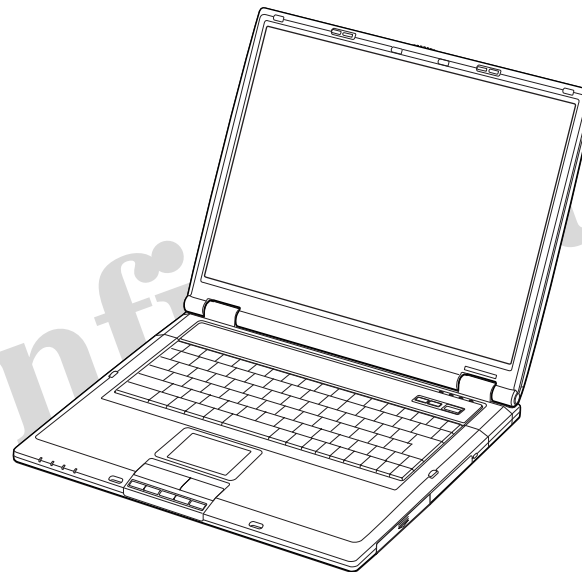
SERVICE MANUAL

Ver 6-2005F

Revision History

Area	Model	Line up
Japanese	Japanese	PCG-GRT99S/P
American	US Canadian	PCG-GRT280ZG PCG-GRT290ZP* PCG-GRT290Z*
Asian/Oceania/ South Africa	International	PCG-GRT40ZP  [MA]
	Korean	PCG-GRT40ZLP  [MA]
	Taiwan	PCG-GRT40ZTP  [MA]
	China	PCG-GRT40ZCP  [MA]

* : CTO Model



Illust : PCG-GRT99S/P



S400



- Design and specifications are subject to change without notice.
- 本機の仕様および外観は、改良のため予告なく変更することがありますが、ご了承ください。

NOTEBOOK COMPUTER

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All other names of systems, products and services in this manual are trademarks or registered trademarks of their respective owners. In this manual, the (TM) or (R) mark are not specified.

Caution Markings for Lithium/Ion Battery - The following or similar texts shall be provided on battery pack of equipment or in both the operating and the service instructions.

CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

CAUTION: The battery pack used in this device may present a fire or chemical burn hazard if mistreated. Do not disassemble, heat above 100°C (212°F) or incinerate. Dispose of used battery promptly. Keep away from children.

CAUTION: Changing the back up battery.

- Overcharging, short circuiting, reverse charging, mutilation or incineration of the cells must be avoided to prevent one or more of the following occurrences; release of toxic materials, release of hydrogen and/or oxygen gas, rise in surface temperature.
- If a cell has leaked or vented, it should be replaced immediately while avoiding to touch it without any protection.

Service and Inspection Precautions

1. Obey precautionary markings and instructions

Labels and stamps on the cabinet, chassis, and components identify areas requiring special precautions. Be sure to observe these precautions, as well as all precautions listed in the operating manual and other associated documents.

2. Use designated parts only

The set's components possess important safety characteristics, such as noncombustibility and the ability to tolerate large voltages. Be sure that replacement parts possess the same safety characteristics as the originals. Also remember that the Δ mark, which appears in circuit diagrams and parts lists, denotes components that have particularly important safety functions; be extra sure to use only the designated components.

3. Always follow the original design when mounting parts and routing wires

The original layout includes various safety features, such as inclusion of insulating materials (tubes and tape) and the mounting of parts above the printer board. In addition, internal wiring has been routed and clamped so as to keep it away from hot or high-voltage parts. When mounting parts or routing wires, therefore, be sure to duplicate the original layout.

4. Inspect after completing service

After servicing, inspect to make sure that all

screws, components, and wiring have been returned to their original condition. Also check the area around the repair location to ensure that repair work has caused no damage, and confirm safety.

5. When replacing chip components...

Never reuse components. Also remember that the negative side of tantalum capacitors is easily damaged by heat.

6. When handling flexible print boards...

- The temperature of the soldering-iron tip should be about 270°C.
- Do not apply the tip more than three times to the same pattern.
- Handle patterns with care; never apply force.

Caution: Remember that hard disk drives are easily damaged by vibration. Always handle with care.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE Δ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

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PCG-GRT99S (J)
PCG-GRT280ZG/GRT290ZP/GRT290Z (AM)
PCG-GRT40ZP/GRT40ZLP/GRT40ZTP/GRT40ZCP (AO)

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L-1.		4-8			
Accessories					
A-1		4-9			
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		(to 4-10)			

History of the changes is shown as the
"Revision History" at the end of this data.

変更履歴は、"Revision History"として、
本データ末に記載してあります。

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PCG-GRT99S (J)
PCG-GRT280ZG/GRT290ZP/GRT290Z (AM)
PCG-GRT40ZP/GRT40ZLP/GRT40ZTP/GRT40ZCP (AO)

CHAPTER 1.

SPECIFICATIONS

	J	AM	AO			
	PCG-GRT99S/P	PCG-GRT280ZG	PCG-GRT40ZP	PCG-GRT40ZLP	PCG-GRT40ZTP	PCG-GRT40ZCP
CPU	M-P4-NW 3.06GHz w/HT	M-P4-NW 3.06GHz w/HT	M-P4-NW 3.06GHz w/HT	M-P4-NW 3.06GHz w/HT	M-P4-NW 3.06GHz w/HT	M-P4-NW 3.06GHz w/HT
LCD	16.1"UXGA (Clear Black)	16.1"UXGA (Clear Black)	16.1"UXGA (Clear Black)	16.1"UXGA (Clear Black)	16.1"UXGA (Clear Black)	16.1"UXGA (Clear Black)
HDD	80GB	80GB	80GB	80GB	80GB	80GB
Graphic	Geforce FX Go 5600(64MB)	Geforce FX Go 5600(64MB)	Geforce FX Go 5600(64MB)	Geforce FX Go 5600(64MB)	Geforce FX Go 5600(64MB)	Geforce FX Go 5600(64MB)
DDR MEMORY	512MB X 1	512MB X 2	512MB X 1	512MB X 1	512MB X 1	512MB X 1
QUANTITY [STANDARD/MAX]	512/1024	1024/1024	512/1024	512/1024	512/1024	512/1024
OPT-DRIVE	DVD+/-RW	DVD+/-RW	DVD+/-RW	DVD+/-RW	DVD+/-RW	DVD+/-RW
TV tuner	○	○	×	×	×	×
int. Wireless LAN	○	○	○	○	○	○
AC adaptor	PCGA-AC19V9	PCGA-AC19V9	PCGA-AC19V9	PCGA-AC19V9	PCGA-AC19V9	PCGA-AC19V9
Battery	PCGA-BP2NY	PCGA-BP2NY	PCGA-BP2NY	PCGA-BP2NY	PCGA-BP2NY	PCGA-BP2NY
OS	WinXP Pro	WinXP Home	WinXP Pro	WinXP Home	WinXP Home	WinXP Home

△1 [MA]

△1 [MA]

△1 [MA]

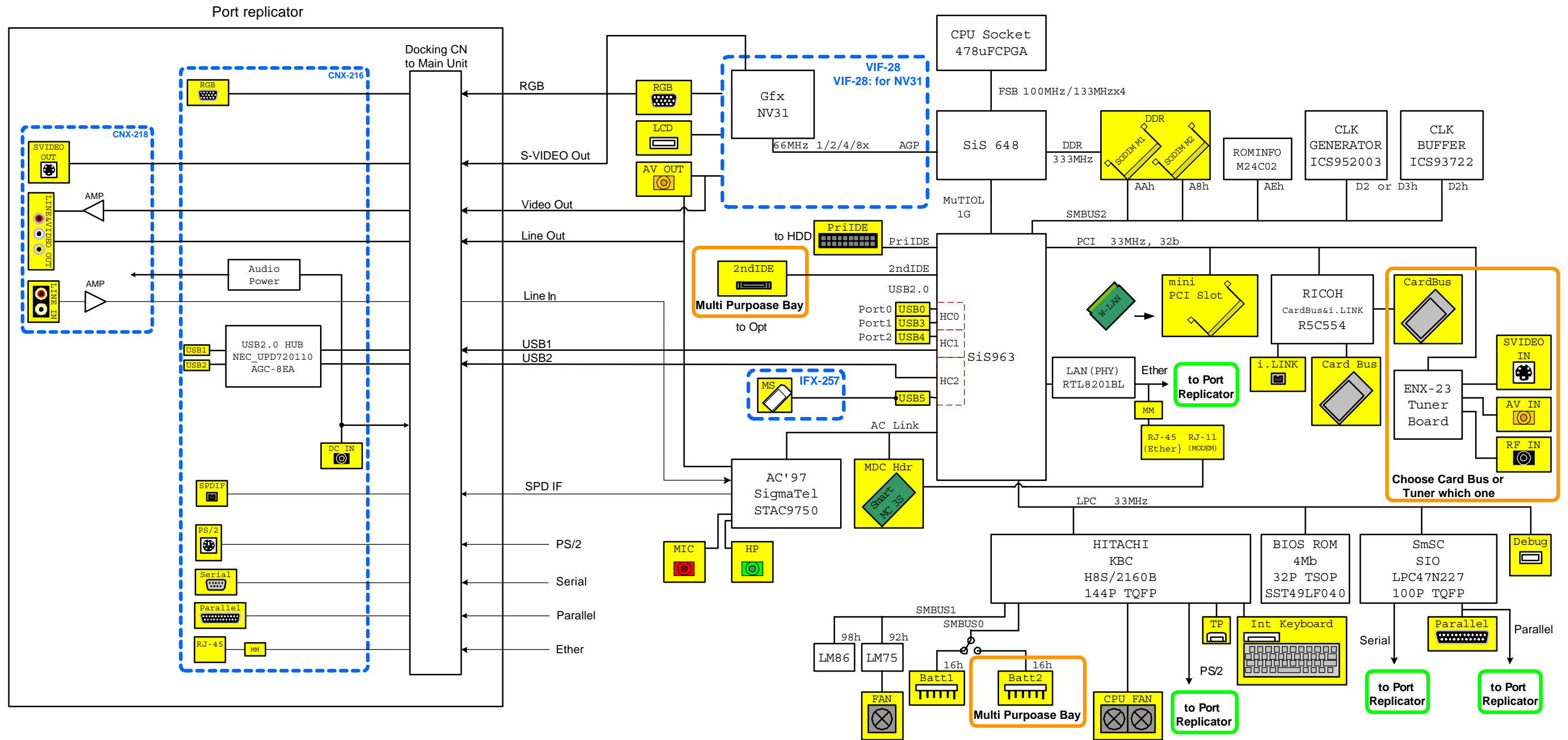
△3 [MA]

- The trademarks or registered trademarks of above table, refer to page 2.
- 本表中の商標・登録商標については、2 ページをご参照ください。

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PCG-GRT99S (J)
PCG-GRT280ZG/GRT290ZP/GRT290Z (AM)
PCG-GRT40ZP/GRT40ZLP/GRT40ZTP/GRT40ZCP (AO)

CHAPTER 2. BLOCK DIAGRAM

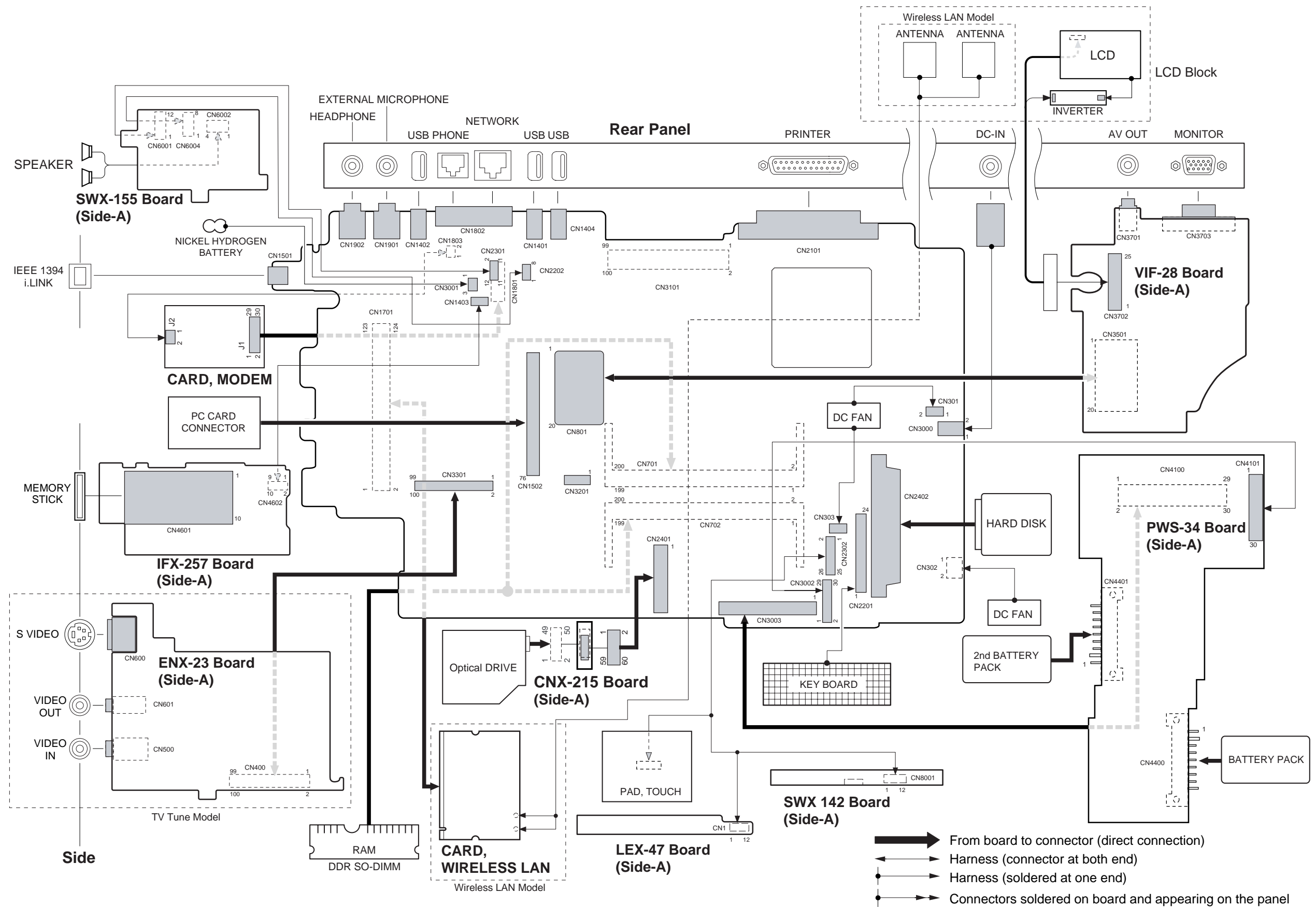


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PCG-GRT99S (J)
PCG-GRT280ZG/GRT290ZP/GRT290Z (AM)
PCG-GRT40ZP/GRT40ZLP/GRT40ZTP/GRT40ZCP (AO)

CHAPTER 3.

FRAME HARNESS DIAGRAM



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PCG-GRT99S (J)
PCG-GRT280ZG/GRT290ZP/GRT290Z (AM)
PCG-GRT40ZP/GRT40ZLP/GRT40ZTP/GRT40ZCP (AO)

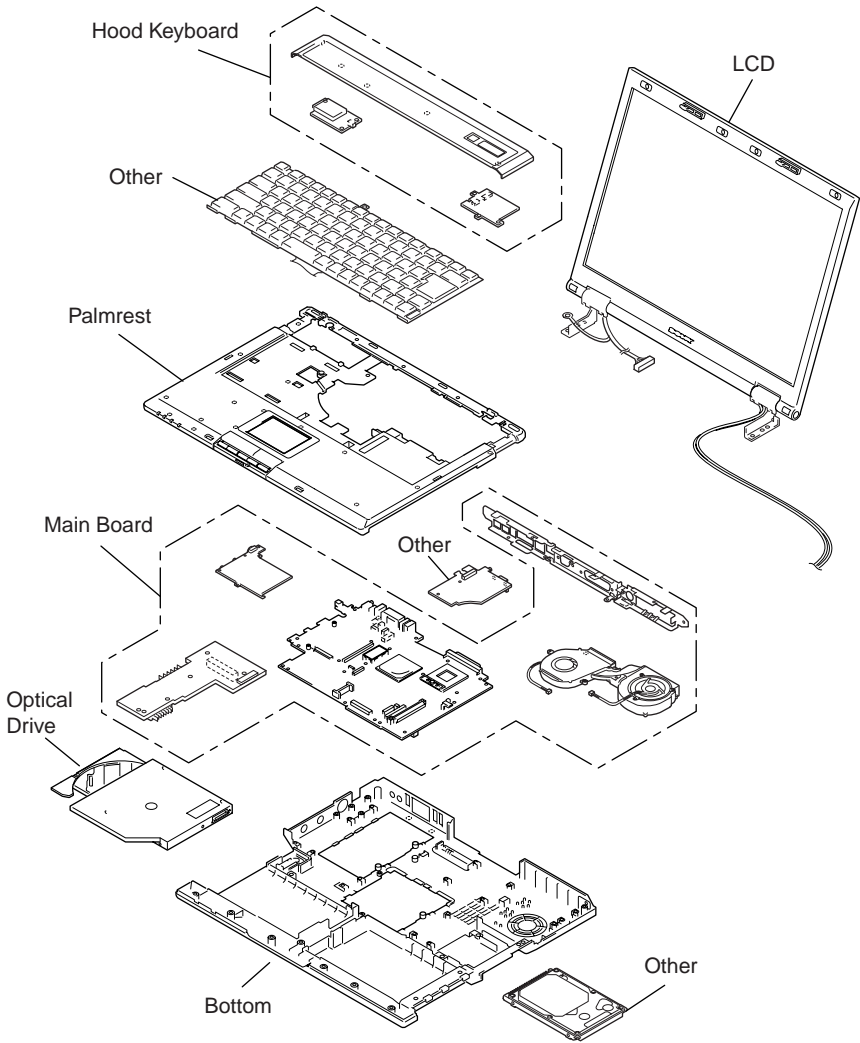
CHAPTER 4.

EXPLODED VIEWS AND PARTS LIST

• The parts list is compiled by blocks of a palmrest and bottom etc. The sections of the parts list are different depending on the model. Please refer to list of contents shown in the below.

Section	Page
Optical Drive	
D-1	4-2
Palmrest	
P-1	4-3
Bottom	
B-1	4-4
Main Board	
M-1	4-5
Hood Keyboard	
HK-1	4-6
Other Parts	
O-1	4-7
LCD	
L-1	4-8
Accessories	
A-1	4-9
DIP Switch	4-10

• 分解図と部品表は、パームレスト、ボトムなどのブロックごとに分かれています。機種によって部品表のセクションが異なりますので、詳細は右下の一覧表を参照してください。



NOTE:

- Items marked “ * ” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- When two or more parts are shown, use the part described first as the main part.
- The parts marked “ \$ ” are the High Value Modules (HVM).
- The parts marked “ # ” are the parts on which barcode label is attached. For the barcode label, refer to CHAPTER 5.
- The parts marked “ & ” are the “Customer Replacable Parts (CRP)” that can be replaced by Field Customer Support. Especially the parts with the <&> mark require the special attention to use them. Here fore, check first whether the desired part is one of the targetted parts of the Customer Replaceable Parts(CRP), or the non-targetted parts by referring to the exploded view.
- Regarding the boards of this model, the discrete parts on the boards cannot be replaced. However, Some connectors can be replaced.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

【使用上の注意】

- * 印の部品は常備在庫しておりません。
- 図面番号のない部品は供給しません。
- 併記部品の場合、上部記載部品をメイン部品として使用してください。
- 部品名称の前に\$ 印のついた部品は、High Value Module (HVM) です。
- 商品名称の前に# 印のついた部品は、バーコードラベル貼付部品です。バーコードラベルについてはCHAPTER 5を参照してください。
- 部品名称の前に& 印のついた部品は、お客様窓口などでも交換可能な Customer Replacable Parts (CRP) です。特に<&> 印のついた部品は、使い分けが必要な部品ですので、分解図で Customer Replacable Parts 対象部品か、対象外部品かを必ず御確認ください。
- 本モデルの基板については、基板上の各部品の修理は行うことができません。ただし、一部のコネクタについては、修理可能です。

⚠ 印の部品、または⚠ 印付きの点線で囲まれた部品は、安全性を維持するために重要な部品です。従って交換時は、必ず指定の部品を使用してください。

		Optical Drive	Palmrest	Bottom	Main Board	Hood Keyboard	Other	LCD	Accessories	
J	GRT99S/P	D-1	P-1	B-1	M-1	HK-1	O-1	L-1	A-1	
	GRT280ZG	D-1	P-1	B-1	M-1	HK-1	O-1	L-1	A-1	
AM	GRT290ZP*	D-1	P-1	B-1	M-1	HK-1	O-1	L-1	A-1	
	GRT290Z*	D-1	P-1	B-1	M-1	HK-1	O-1	L-1	A-1	
	GRT40ZP	D-1	P-1	B-1	M-1	HK-1	O-1	L-1	A-1	⚠ [MA]
AO	GRT40ZLP	D-1	P-1	B-1	M-1	HK-1	O-1	L-1	A-1	⚠ [MA]
	GRT40ZTP	D-1	P-1	B-1	M-1	HK-1	O-1	L-1	A-1	⚠ [MA]
	GRT40ZCP	D-1	P-1	B-1	M-1	HK-1	O-1	L-1	A-1	⚠ [MA]

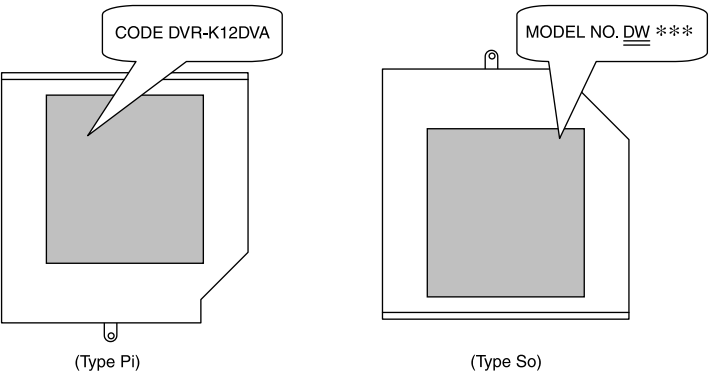
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PCG-GRT99S (J)
PCG-GRT280ZG/GRT290ZP/GRT290Z (AM)
PCG-GRT40ZP/GRT40ZLP/GRT40ZTP/GRT40ZCP (AO)

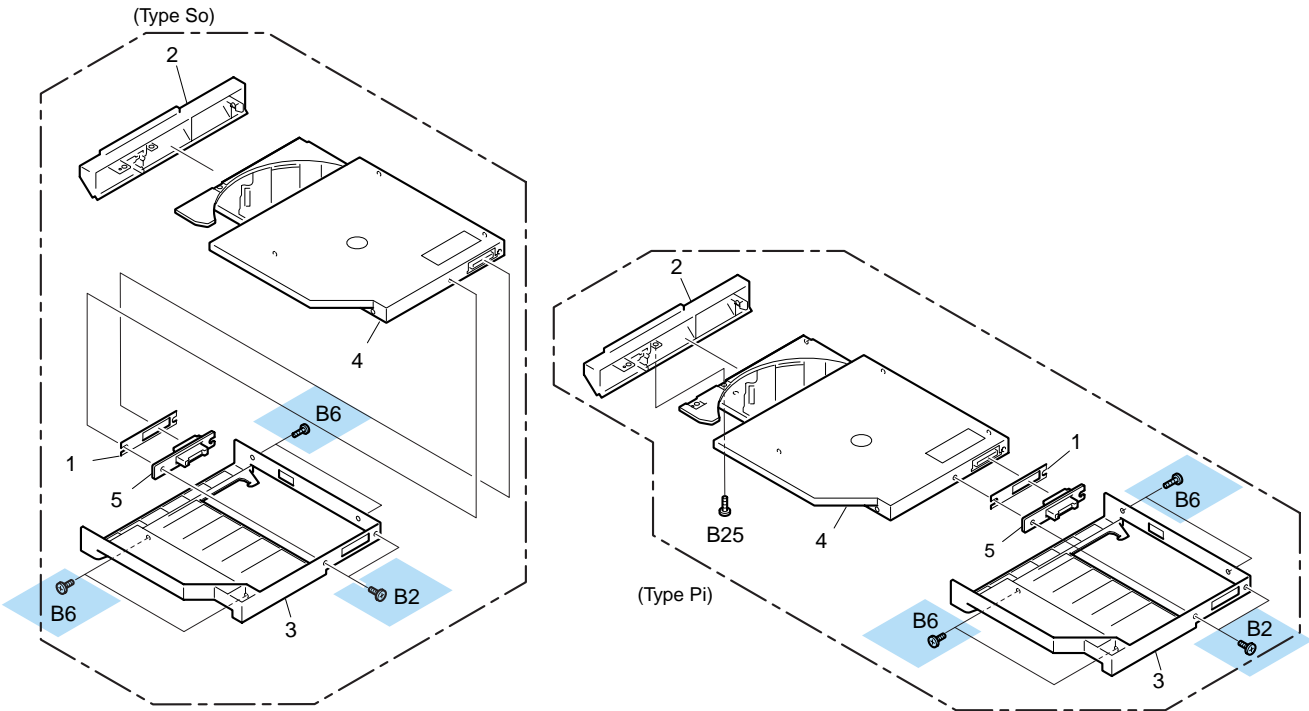
How to Use Parts Differently.

This series of product uses the three different types of optical drive (Pi type and So type).
When replacing the optical drive, use the Pi type parts for the Pi type optical drive, and use the So type parts for the So type optical drive.
Replace the peripheral parts of optical drive with the same type in the same way.

[How to identify the Pi and So types of parts]



D-1. Optical Drive



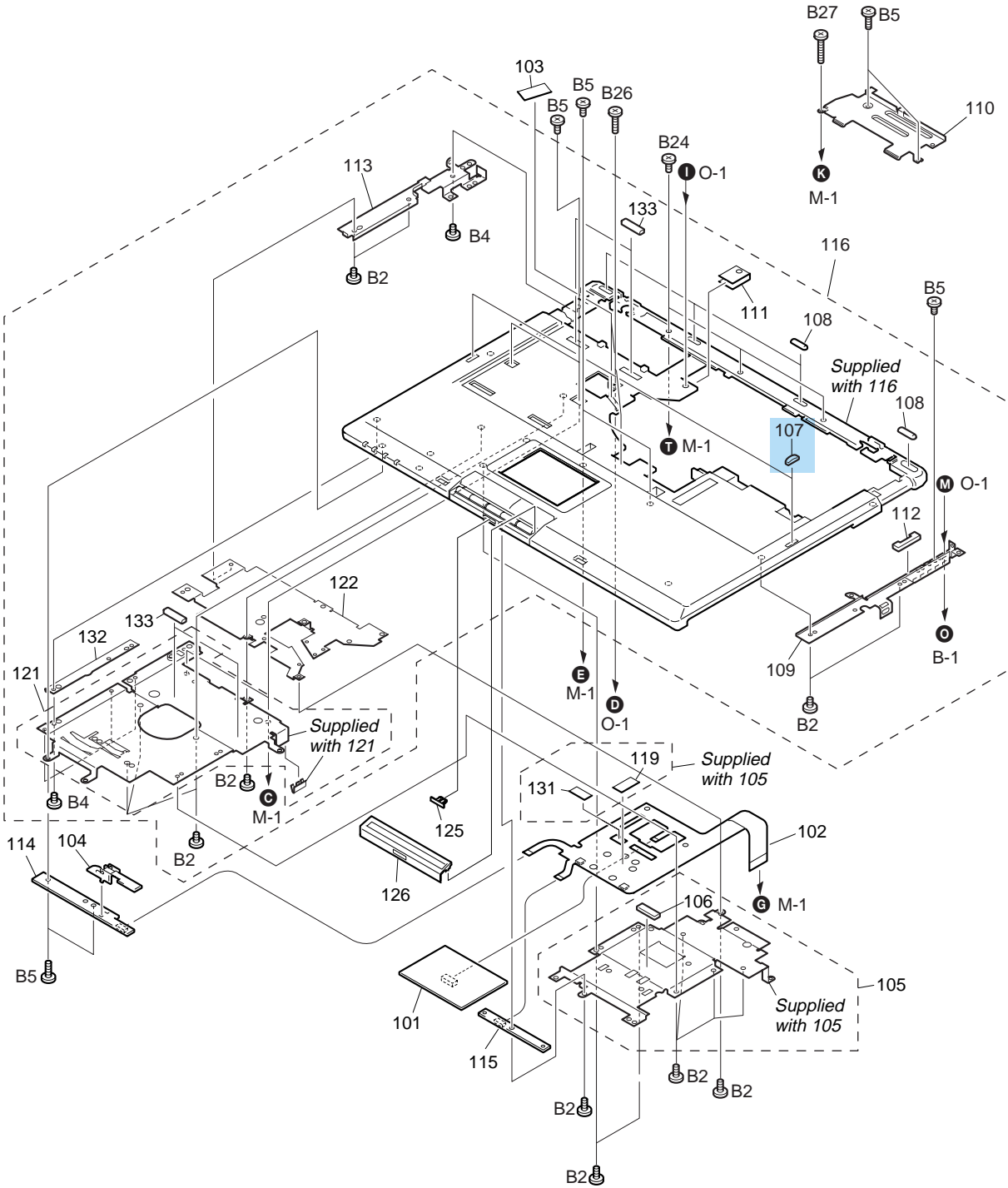
Ref.No.	Part No.	Description
1	4-654-837-01	SHEET BAY BOARD
3	X-4626-422-1	ASSY BAY CASE
5	A-8067-975-A	\$ COMPLETE PWB CNX-215
B2	4-641-726-11	& SCREW (M2), SPECIAL HEAD
B6	4-656-703-01	& SCREW M2

Ref.No.	Part No.	Description	J	AM		AO			
			GRT99S/P	GRT280ZG	GRT290ZP *	GRT290Z *	GRT40ZP	GRT40ZLP	GRT40ZTP
2	X-4626-420-1	ASSY SONY COMBO BEZEL (So)	●	●	●	●	●	●	●
	X-4626-421-1	ASSY PIONEER DVR BEZEL (Pi)	●	●	●	●	●	●	●
4	8-457-509-03	\$ # DVD DRIVE, DW-U50A-VN/T (So)	●	●	●	●	●	●	●
	1-796-834-11	\$ # W-DVD (DVR-K12D)(Pi)	●	●	●	●	●	●	●
B25	4-679-805-11	SCREW M1.7(B) TAPPING BLK	●	●	●	●	●	●	●
							▲	▲	▲
							[MA]	[MA]	[MA]
									▲
									[MA]

- This parts list contains two different types of parts.
The first type is the parts that are common to all models.
The other type is the parts that are different depending on each model.
- The model that is accompanied by asterisk (*) is the CTO model.
- この部品表は、機種共通の部品と、機種によって使い分けが必要な部品に分かれています。
- 機種名に (*) がつくのは CTO モデルです。

P-1. Palmrest

P-1



Ref.No.	Part No.	Description
101	1-796-319-41	PAD, TOUCH
102	A-8068-665-A	TOUCH PAD FPC
103		CAPTON TAPE
104	X-4625-918-1	ASSY LATCH DETECTOR
105	X-4626-473-1	ASSY TP BRACKET
106	4-676-956-01	GASKET T/P CONTACT
107	4-668-288-11	& CUSHION PALM
108	4-676-948-01	RUBBER STOPPER
109	4-679-482-01	BRACKET PALMREST R
110	X-4626-472-1	ASSY SHIELDING PALMREST R
111	4-680-674-01	FOIL KB
112	4-680-670-01	FERRITE CORE
113	4-679-481-01	BRACKET PALMREST L
114	A-8067-971-A	\$ COMPLETE PWB LEX-47
115	A-8067-972-A	\$ COMPLETE PWB SWX-142
119	4-676-954-01	ADHESIVE TP
121	X-4626-471-1	ASSY SHIELDING PALMREST L
122	4-679-478-01	PLATE PALMREST
131	4-676-955-01	MYLAR TP
132	4-679-484-01	REINFORCE PALMREST
133	4-680-193-01	GASKET KB(4W*2.5H*20L)
B2	4-641-726-11	SCREW (M2), SPECIAL HEAD
B4	4-641-726-81	SCREW (M2), SPECIAL HEAD
B5	4-641-726-41	SCREW (M2), SPECIAL HEAD
B24	4-641-726-21	SCREW (M2), SPECIAL HEAD
B26	4-644-637-01	SCREW (2X14)
B27	4-678-226-01	M2 SCREW

Ref.No. Part No.	Description	J	AM		AO			
		GRT99S/P	GRT280ZG	GRT290ZP *	GRT290Z *	GRT40ZP	GRT40ZLP	GRT40ZTP
116 X-4626-416-1	ASSY PALMREST HOUSING			●	●	●	●	●
X-4626-424-1	ASSY PALMREST HOUSING (TV)	●	●					
125 4-673-722-01	SLIDE WIRELESS KNOB (W)	●	●	●	●	●	●	●
126 X-4625-908-1	ASSY ESCUSHION (TV)	●	●					
X-4626-219-1	ASSY ESCUSHION N-TV (W)			●	●	●	●	●
4-673-719-11	ESCUSHION W/O WIRELESS			●	●			
						△	△	△
						[MA]	[MA]	[MA]

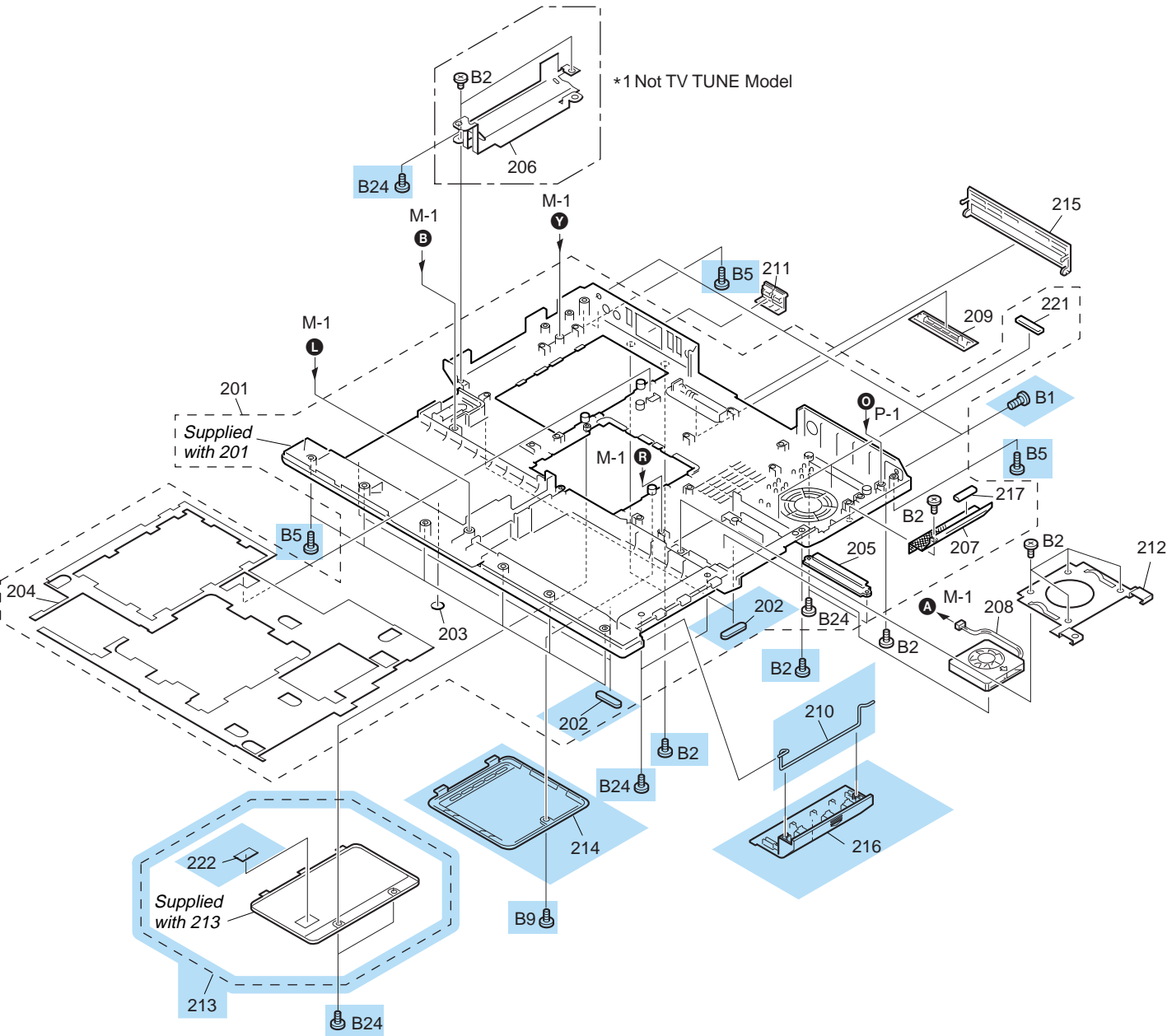
- This parts list contains two different types of parts.
The first type is the parts that are common to all models.
The other type is the parts that are different depending on each model.
- The model that is accompanied by asterisk (*) is the CTO model.
- The parts to which (W) is added after the part Description are used in the models in which the Wireless LAN is installed.
- The parts to which (TV) is added after the part Description are used in the models in which the TV Tuner is installed.

- この部品表は、機種共通の部品と、機種によって使い分けが必要な部品に分かれています。
- 機種名に (*) がつくのは CTO モデルです。
- 部品名称のあとに (W) がつくのは、ワイヤレスラン搭載モデル用の部品です。
- 部品名称のあとに (TV) がつくのは、TV チューナー搭載モデル用の部品です。

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PCG-GRT99S (J)
PCG-GRT280ZG/GRT290ZP/GRT290Z (AM)
PCG-GRT40ZP/GRT40ZLP/GRT40ZTP/GRT40ZCP (AO)

B-1. Bottom



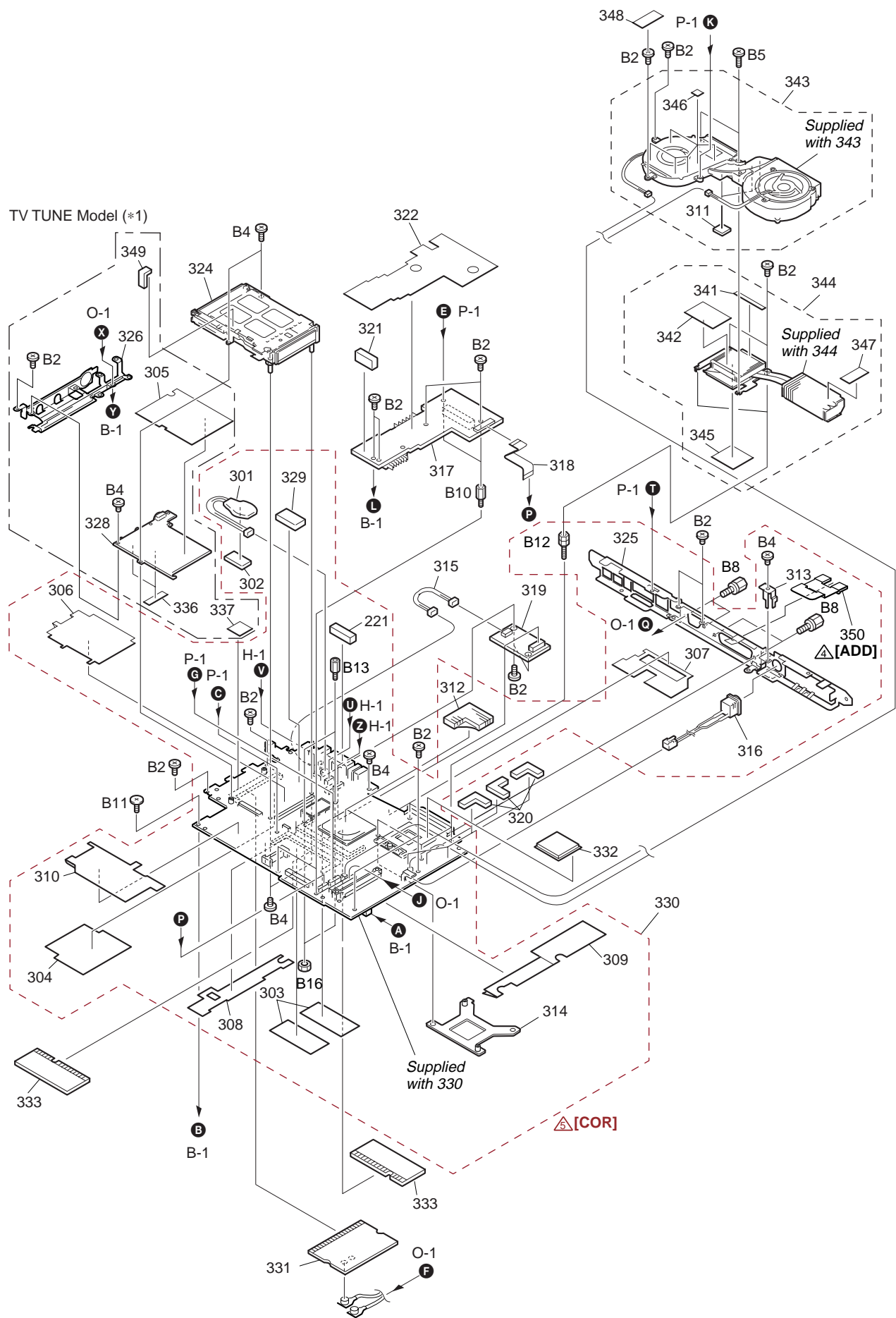
Ref.No.	Part No.	Description
202	4-682-159-01	& FOOT FRONT
203	4-654-380-41	CAP BAY
204	4-680-184-01	MB SHIELDING MYLAR
205	X-4626-510-1	ASSY DOOR HEATSINK CLEAN
207	4-679-493-01	BOTTOM NET L
		△ [COR] 4-679-495-01 BOTTOM NET R
208	A-8118-355-A	KME FAN-3
209	4-654-379-21	COVER (PORT)
210	4-668-299-01	& DOOR BATTERY SPRING
211	4-673-986-01	CAP ETHERNET
212	X-4626-470-1	ASSY FAN-S SHIELDING
213	X-4626-463-1	& ASSY DOOR MDC
214	X-4626-418-1	& ASSY DOOR DIMM
215	X-4626-419-1	ASSY DOOR IO
216	4-679-463-01	DOOR BATTERY
217	4-676-956-01	GASKET T/P CONTACT
221	4-676-461-01	LAN GASKET 20X5X5
222	4-677-682-01	& WIRELESS LAN GASKET
B1	4-654-811-21	& SCREW M3
B2	4-641-726-11	& SCREW (M2), SPECIAL HEAD
B5	4-641-726-41	& SCREW (M2), SPECIAL HEAD
B9	4-664-453-01	& SCREW (M2), SPECIAL HEAD
B24	4-641-726-21	& SCREW (M2), SPECIAL HEAD

Ref.No.	Part No.	Description	J	AM		AO			
			GRT99S/P	GRT280ZG	GRT290ZP *	GRT290Z *	GRT40ZP	GRT40ZLP	GRT40ZTP
201	X-4626-415-1	ASSY HOUSING BOTTOM			●	●	●	●	●
	X-4626-423-1	ASSY HOUSING BOTTOM (TV)	●	●					
206	4-679-488-01	ASSY BRACKET IO LEFT			●	●	●	●	●
B4	4-641-726-81	SCREW (M2), SPECIAL HEAD			●	●	●	●	●
							△ [MA]	△ [MA]	△ [MA]
									△ [MA]

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- The model that is accompanied by asterisk (*) is the CTO model.
- The parts to which (TV) is added after the part Description are used in the models in which the TV Tuner is installed.
- *1 For the BRACKET IO LEFT of the Tuner model, refer to the Main Board.
- この部品表は、機種共通の部品と、機種によって使い分けが必要な部品に分かれています。
- 機種名に (※) がつくのは CTO モデルです。
- 部品名称のあとに (TV) がつくのは、TV チューナー搭載モデル用の部品です。
- *1 TV チューナーモデルの BRACKET IO LEFT は、Main Board を参照ください。

M-1. Main Board

M-1



Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
221	4-676-461-01	LAN GASKET 20X5X5	322	4-680-188-01	SHEET PWS PCB
301	9-885-033-67	BATTERY, LITHIUM STORAGE	325	X-4626-474-1	ASSY BRACKET IO
302	4-642-711-01	SHEET (BATTERY), ADHESIVE	329	4-677-674-02	SPONGE CRYSTAL
303	4-668-307-01	SHEET DIMM	332	6-803-849-01	IC RK80532HE083512SL77P
304	4-668-308-01	SHEET MINI PCI	341	4-680-675-01	GASKET FIN
306	4-673-997-01	SHEET PC CARD	342	4-680-671-01	FIN MYLAR
307	4-673-999-01	SHEET PORT	343	A-8117-948-A	\$ ASSY FAN UNIT
308	4-680-187-01	SHEET DIMM SIDE	344	X-4626-475-1	\$ ASSY FIN STH
309	4-680-186-01	SHEET HDD	345	4-671-241-01	SHEET THERMAL (STH)
310	4-676-421-01	SHEET DRIVE	346	4-677-182-01	FAN PLATE MYLAR
311	4-680-677-01	CMOS PAD M	347	4-682-346-01	RHE FIN MYLAR
312	4-680-669-01	NORTH BRIDGE HEATSINK	348	4-682-160-01	SHEET FAN SCREW
* 313	4-673-811-01	DC IN HOLDER	350	4-676-505-01	SPRING M BKT IO
* 314	X-4625-932-1	CPU BACK PLATE ASSY			
315	9-885-033-65	HARNESS (2P)			
316	A-8068-667-A	DC, HARNESS	B2	4-641-726-11	SCREW (M2), SPECIAL HEAD
317	A-8068-558-A	\$ COMPLETE PWB PWS-34	B4	4-641-726-81	SCREW (M2), SPECIAL HEAD
318	9-885-033-72	CABLE (30P), FLEXIBLE FLAT	B5	4-641-726-41	SCREW (M2), SPECIAL HEAD
319	1-761-606-14	\$ # CARD, MODEM	B8	4-635-966-01	SCREW (HEX)
320	4-680-673-01	CMOS THERMAL PAD	B10	4-680-676-01	SPACER(PWS),H=8.2
321	4-677-786-01	SR+ GASKET CHARGER BOARD	B11	4-654-387-01	SCREW (MBX)
			B12	4-676-485-01	SPACER(CPU),H=5
			B13	4-677-686-01	SPACER (PWS) H=8.0
			B16	7-622-205-05	NUT (M2 TYPE2), HEXAGON

Ref.No.	Part No.	Description	J	AM		AO		
			GRT99S/P	GRT280ZG	GRT290ZP *	GRT290Z *	GRT40ZP	GRT40ZLP
305	4-674-003-01	TUNER BD MYLAR	●	●				
324	A-8068-664-A	CONNECTOR PC CARD(2 SLOT)			●	●	●	●
	9-885-033-66	CONNECTOR PC CARD(1 SLOT)(TV)	●	●				
*1	326	X-4626-477-1	●	●				
328	A-8068-275-A	COMPLETE PWB ENX-23 (U)	●	●				
	A-8068-559-A	COMPLETE PWB ENX-23 (J)	●	●				
330	A-8118-883-A	\$ # COMPLETE PWB MBX-104	●	●	●	●	●	●
	A-8118-884-A	\$ # COMPLETE PWB MBX-104 (TV)	●	●	●	●	●	●
331	1-761-784-22	\$ # CARD, WIRELESS LAN				●	●	●
	1-761-784-32	\$ # CARD, WIRELESS LAN		●	●			●
	1-761-786-11	\$ # CARD, WIRELESS LAN	●					
333	6-705-094-01	IC M470L3224FTO-CB3 (256MB)			●	●		
	6-705-097-01	IC HYS64D64020GBDL-6-B (512MB)	●X1	●X1	●	●	●X1	●X1
	6-705-343-01	IC EBD11UD8ABDA-6B (1024MB)			●	●		
336	4-677-894-02	BUSTERAID TUNER	●	●				
337	4-677-893-01	BUSTERAID MBX	●	●				
349	4-682-149-01	GASKET CARDBUS	●	●				

[MA] [MA] [MA] [MA]

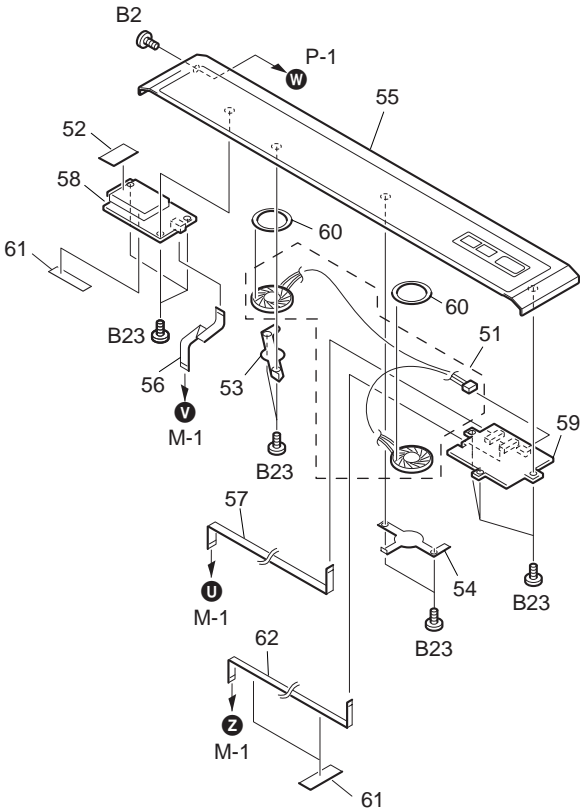
- This parts list contains two different types of parts.
The first type is the parts that are common to all models.
The other type is the parts that are different depending on each model.
- The model that is accompanied by asterisk (*) is the CTO model.
- The parts to which (TV) is added after the part Description are used in the models in which the TV Tuner is installed.
- *1 For the BRACKET IO LEFT of the model without Tuner, refer to the Bottom.
- この部品表は、機種共通の部品と、機種によって使い分けが必要な部品に分かれています。
- 機種名に (*) がつくのは CTO モデルです。
- 部品名称のあとに (TV) がつくのは、TV チューナー搭載モデル用の部品です。
- *1 TV チューナーのないモデルの BRACKET IO LEFT は、Bottom を参照ください。

Confidential

PCG-GRT99S (J)
PCG-GRT280ZG/GRT290ZP/GRT290Z (AM)
PCG-GRT40ZP/GRT40ZLP/GRT40ZTP/GRT40ZCP (AO)

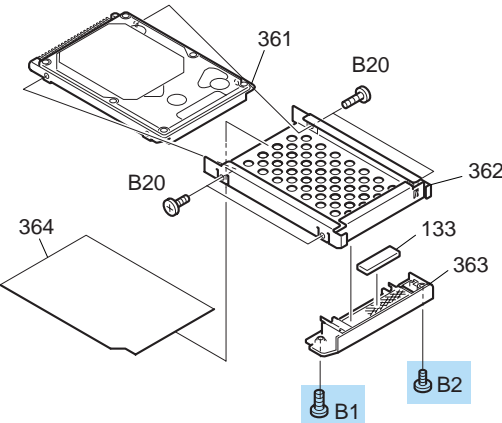
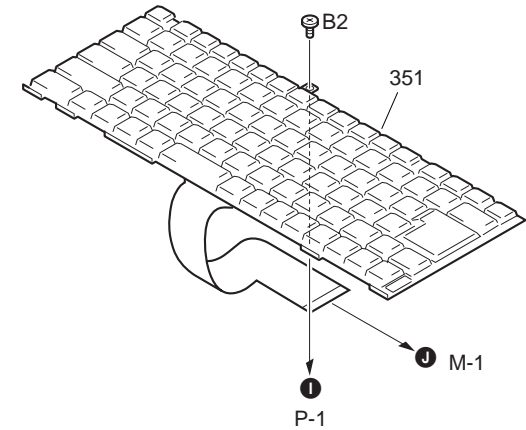
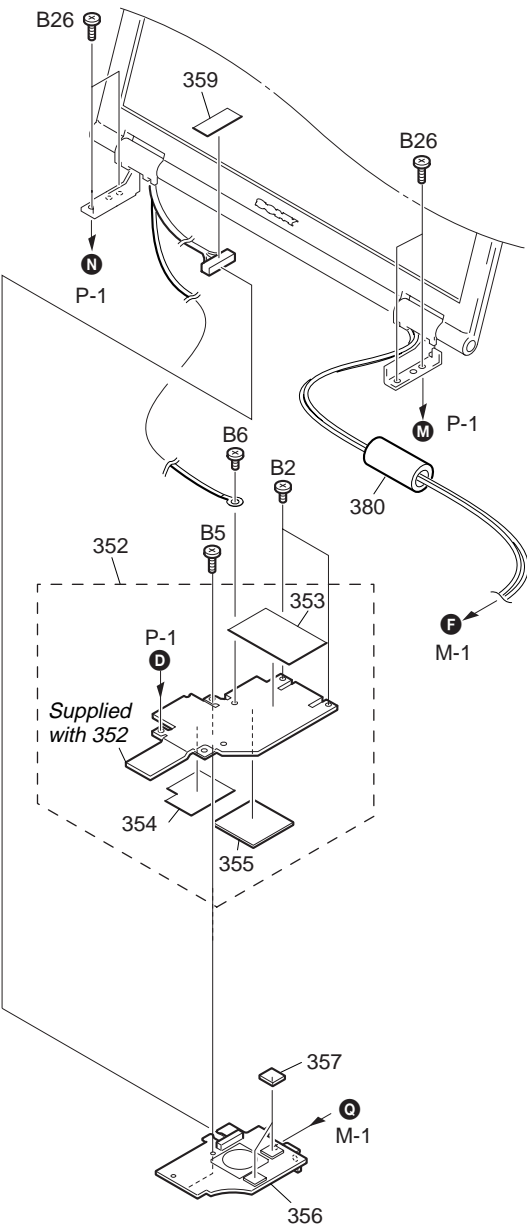
HK-1. Hood Keyboard

HK-1



Ref.No.	Part No.	Description
51	A-8116-871-A	SPEAKER UNIT (FO-2+) (16)
52	4-680-191-01	SHEET MS
53	4-673-789-01	SPEAKER HOLDER L
54	4-679-084-01	SPEAKER HOLDER R
55	X-4626-417-1	ASSY HOOD KEYBOARD
56	9-885-033-70	CABLE (10P), FLEXIBLE FLAT
57	9-885-033-71	CABLE (11P), FLEXIBLE FLAT
58	A-8068-549-A	\$ COMPLETE PWB IFX-257
59	A-8068-274-A	\$ COMPLETE PWB SWX-155
60	4-677-458-01	SPERKER RING GULE
61		CAPTON TAPE (7X20)
62	A-8116-337-A	CABLE (8P) FLEXIBLE FLAT
B2	4-641-726-11	& SCREW (M2), SPECIAL HEAD
B23	4-639-112-01	SCREW M2X4

O-1. Other Parts



Ref.No.	Part No.	Description
133	4-680-193-01	GASKET KB(4W*2.5H*20L)
352	X-4626-513-1	ASSY VGA HEAT PLATE
353	4-670-461-01	SHEET BLIND (PLATE HEATSINK)
354	4-673-987-01	VGA PLATE MYLAR
355	4-676-423-01	VGA THERMAL PAD
356	A-8068-739-A	COMPLETE PWB VIF-28(IN)
357	4-680-672-01	VGA MEMORY PAD
359		CAPTON TAPE
* 362	4-676-418-01	BRACKET HDD
363	X-4626-511-1	ASSY DOOR HDD
364	4-653-801-11	SHEET HDD
380	1-400-255-21	FERRITE CORE
B1	4-654-811-21	& SCREW M3
B2	4-641-726-11	& SCREW (M2), SPECIAL HEAD
B5	4-641-726-41	SCREW (M2), SPECIAL HEAD
B6	4-656-703-01	& SCREW M2
B20	4-635-301-01	SCREW M3X4
B26	4-644-637-01	GRIP,M2 EG

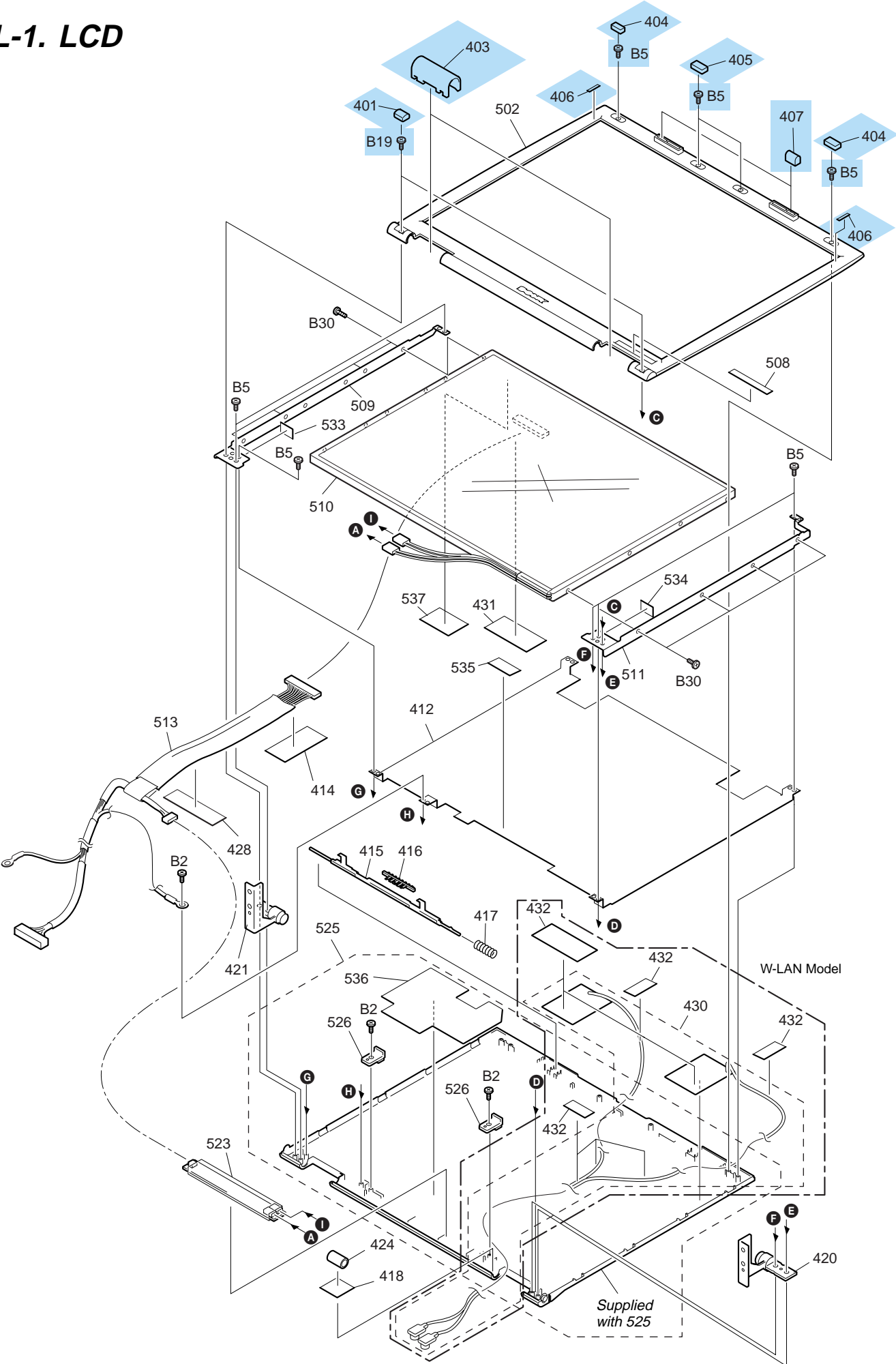
△ [MA]
△ [MA]

Ref.No. Part No.	Description	J	AM		AO			
		GRT99S/P	GRT280ZG	GRT290ZP *	GRT290Z *	GRT40ZP	GRT40ZLP	GRT40ZTP
351 1-478-018-11	\$ # KEY BOARD UNIT (JP)	●						
1-478-018-21	\$ # KEY BOARD UNIT (US)		●	●	●			●
1-478-018-31	\$ # KEY BOARD UNIT (KR)						●	
1-478-018-51	\$ # KEY BOARD UNIT (TW)							●
361 A-8117-058-A	ASSY HDD 80GB(H,40)(S)	●	●	●	●	●	●	●
A-8117-585-A	ASSY HDD 60GB(H,40)(S)			●	●			
						△ [MA]	△ [MA]	△ [MA]
								△ [MA]

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The first type is the parts that are common to all models.
The other type is the parts that are different depending on each model.
- The model that is accompanied by asterisk (*) is the CTO model.

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・機種名に (*) がつくのは CTO モデルです。

L-1. LCD



Ref.No.	Part No.	Description
401	4-674-542-01	& COVER SCREW LOWER
403	4-673-716-01	& COVER HINGE
404	4-674-540-01	& COVER SCREW UPPER
405	4-674-541-01	& COVER SCREW MIDDLE
406	4-672-201-11	& CUSHION BEZEL
407	4-674-539-01	& CUSHION LATCH
412	4-676-870-01	SHIELD DISPLAY
414	4-677-679-01	FOIL LCD HARNESS
415	4-673-727-01	LATCH HONTAI
416	4-673-728-01	LATCH BUTTON
417	4-671-640-01	GT2 SPRING_LATCH
418	4-673-316-01	GT2 CUSHION WL CABLE
420	4-673-736-02	HINGE R
421	4-673-735-02	HINGE L
424	4-672-196-01	TUBE WL CABLE
428	4-672-403-01	COPPER TAPE LCD ED
430	1-754-295-11	ANTENNA, FILM (L AND R)
431	4-680-130-01	CU-FOIL WITH MYLAR
432		FILAMENT TAPE
502	A-8115-903-A	ASSY HOUSING BEZEL/HI
* 509	4-673-750-01	BRACKET LCD HI L
510	A-8115-722-A	\$ # LCD UNIT (16TFT-UXGA-HI)(S)
* 511	4-673-749-01	BRACKET LCD HI R
513	9-885-031-89	LCD HARNESS
523	1-478-040-11	INVERTER UNIT
525	A-8115-984-A	ASSY HOUSING DISPLAY 16(SBL)(S)
526	4-673-729-01	LCD HOOK BASE HI
533	4-676-481-01	SHEET BRACKET LCD L HIT
534	4-676-482-01	SHEET BRACKET LCD R HIT
535	4-670-396-01	SHEET COPPER(PLATE HEATSINK)
536	4-676-932-01	PLATE INVERTER
537	4-680-580-01	BUSTERAID W-LAN
B2	4-641-726-11	SCREW (M2), SPECIAL HEAD
B5	4-641-726-41	& SCREW (M2), SPECIAL HEAD
B19	4-641-726-91	& SCREW (M2), SPECIAL HEAD
B30	4-636-559-01	SCREW (M2.5X4)

⚠ [MA]
⚠ [MA]
⚠ [MA]
⚠ [MA]
⚠ [ADD]
⚠ [ADD]

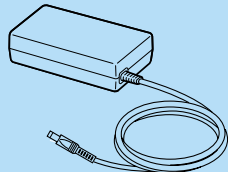
Ref.No.	Part No.	Description	J	AM		AO			
			GRT99S/P	GRT280ZG	GRT290ZP *	GRT290Z *	GRT40ZP	GRT40ZLP	GRT40ZTP
508	4-680-502-11	LABEL ID		●					
	4-680-615-01	LABEL ID	●						
	4-680-620-11	LABEL ID					●		
	4-680-620-21	LABEL ID						●	
	4-680-620-31	LABEL ID							●
	4-680-624-11	LABEL ID							●
	4-680-499-11	LABEL ID (UCTO)			●				
	4-680-499-21	LABEL ID (UCTO)				●			

⚠ [MA]
⚠ [MA]
⚠ [MA]
⚠ [MA]

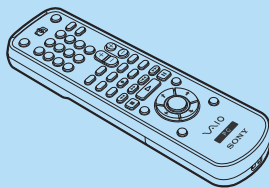
- This parts list contains two different types of parts.
The first type is the parts that are common to all models.
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- The model that is accompanied by asterisk (*) is the CTO model.
- この部品表は、機種共通の部品と、機種によって使い分けが必要な部品に分かれています。
- 機種名に (*) がつくのは CTO モデルです。

A-1. Accessories

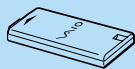
1001
AC Adaptor



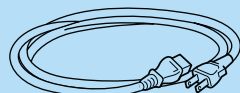
1008
Remote Commander



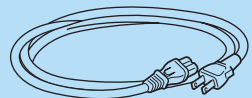
1002
Battery Pack



1003
Power Cord



1004
Power Cord



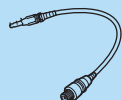
1005
Attenuator



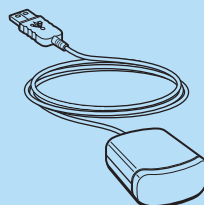
1006
Combo Dummy



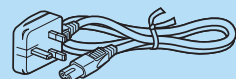
1007
Antena Cable



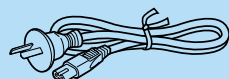
1009
RAY-Catcher Unit



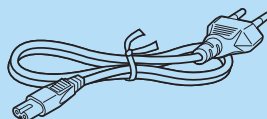
1010
AC Power Cord



1011
Power Cord



1012
Power-Supply Cord



				J	AM		AO						
					GRT99S/P	GRT280ZG	GRT290ZP *	GRT290Z *	GRT40ZP	GRT40ZLP	GRT40ZTP	GRT40ZCP	
Ref.No. Part No.				Description									
△ [MA]	△	1001	1-478-390-21	\$	&	ADAPTOR, AC	●	●	●	●			
△ [MA]	△		1-478-390-41	\$	&	ADAPTOR, AC					●	●	●
△ [MA]			1-478-390-51	\$	&	ADAPTOR, AC							●
△ [MA]		1002	A-8120-053-A	\$	#	& BP2NY(E)ASSY(S)					●	●	●
			A-8120-051-A	\$	#	& BP2NY(J)ASSY(S)	●						
			A-8120-052-A	\$	#	& BP2NY(U)ASSY(S)							
	△	1003	1-757-562-21			& CORD, POWER		●	●	●			
	△	1004	1-790-732-32			& CORD, POWER	●						
△ [MA]			1-782-476-22			& CORD, POWER							●
		1005	1-417-422-11			& RF ATTENUATOR CABLE	●						
		1006	4-679-472-01			& COMBO DUMMY	●	●	●	●	●		●
		1007	1-823-959-11			& CORD, COAXIAL CONNECTOR WITH (TV)	●	●					
		1008	1-477-556-21			& REMOTE COMMANDER (TV)	●						
			1-477-900-11			& REMOTE COMMANDER		●					
		1009	1-477-218-41			& RAY-CATCHER UNIT (TV)	●	●					
△ [MA]	△	1010	1-823-935-51			& CORD,AC POWER					●		
△ [MA]	△	1011	1-555-074-32			& CORD,POWER					●		
△ [MA]	△	1012	1-823-947-32			& POWER-SUPPLY CORD						●	
			4-680-202-01			& Instruction Manual (XP)	●						
△ [MA]			4-680-417-11			& Instruction Manual (XP)					●		
△ [MA]			4-680-417-21			& Instruction Manual (XP)						●	
△ [MA]			4-680-417-41			& Instruction Manual (XP)							●
△ [MA]			4-680-418-31			& Instruction Manual (XP)							●
			4-680-556-01			& QUICK START		●					

△ [MA]
△ [MA]
△ [MA]
△ [MA]

DIP Switch

The DIP switch setting is following table.
DIPスイッチの設定は下の表をご参照ください

Set the DIP switch on the MBX-104 board (Main board) to match with the LCD that is used in this computer.
MBX-104 Board（メインボード）のDIPスイッチは, 下図のように本機で使用するLCDに合わせて設定します。



The lower position where ON indication is shown is the ON position.
The upper position is the OFF position.
下側（ONと表記のある側）がON, 上側がOFF

S801

No.	1	2	3	4	5	6	7	8
ON/OFF	1	1	0	0	1	1	1	1

Confidential

PCG-GRT99S (J)
PCG-GRT280ZG/GRT290ZP/GRT290Z (AM)
PCG-GRT40ZP/GRT40ZLP/GRT40ZTP/GRT40ZCP (AO)

CHAPTER 5.

OTHERS

5-1. The barcode label

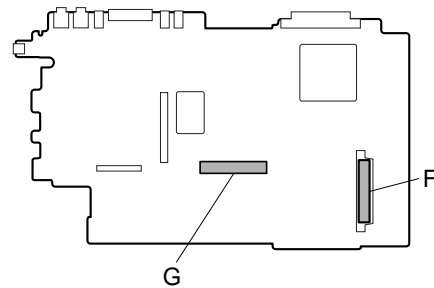
The hatched portion of the barcode label is used as the repair data.

5-1. バーコードラベルについて

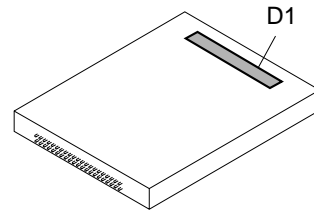
バーコードラベルの見方

バーコードラベルの網掛け部は、修理データとして使用いたします。

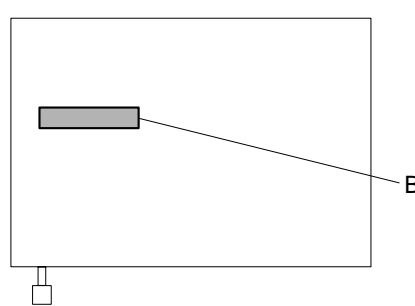
[MBX-104 Board] (Side A)



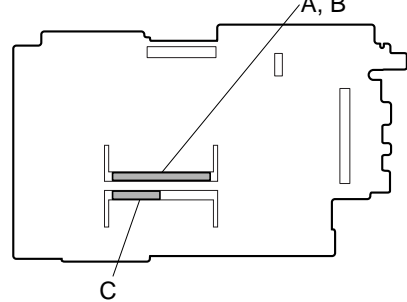
[HDD] (Made by I) (Top)



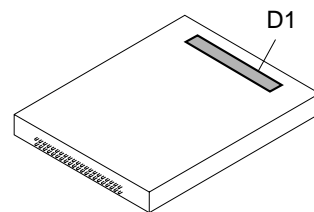
[LCD Unit] (Rear)



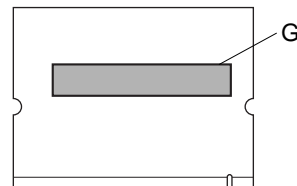
[MBX-104 Board] (Side B)



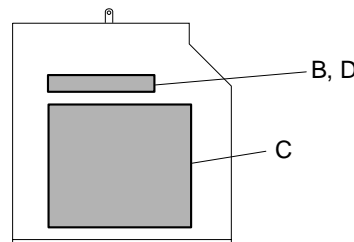
[HDD] (Made by Hi) (Top)



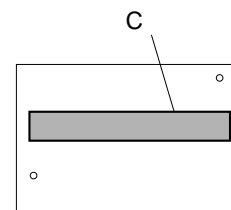
[Wireless LAN Card]



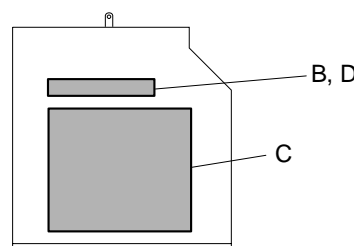
[DVD+-RW Drive] (Made by So) (Top)




[Modem Card]



[DVD-RW Drive] (Made by Pi) (Top)



- A : Parts No.
- B : Serial No.
- C : Revision No.
- D : Product code
- E : Maker Barcode
- F : Global User ID (iLink)
- G : Mac Address
-  : Barcode

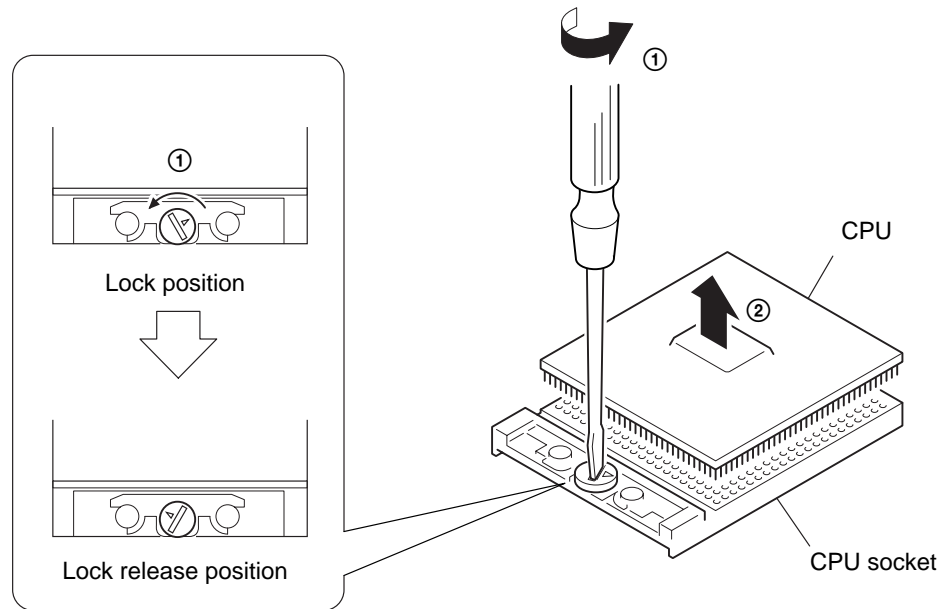
Confidential

PCG-GRT99S (J)
PCG-GRT280ZG/GRT290ZP/GRT290Z (AM)
PCG-GRT40ZP/GRT40ZLP/GRT40ZTP/GRT40ZCP (AO)

5-2. Replacing the CPU

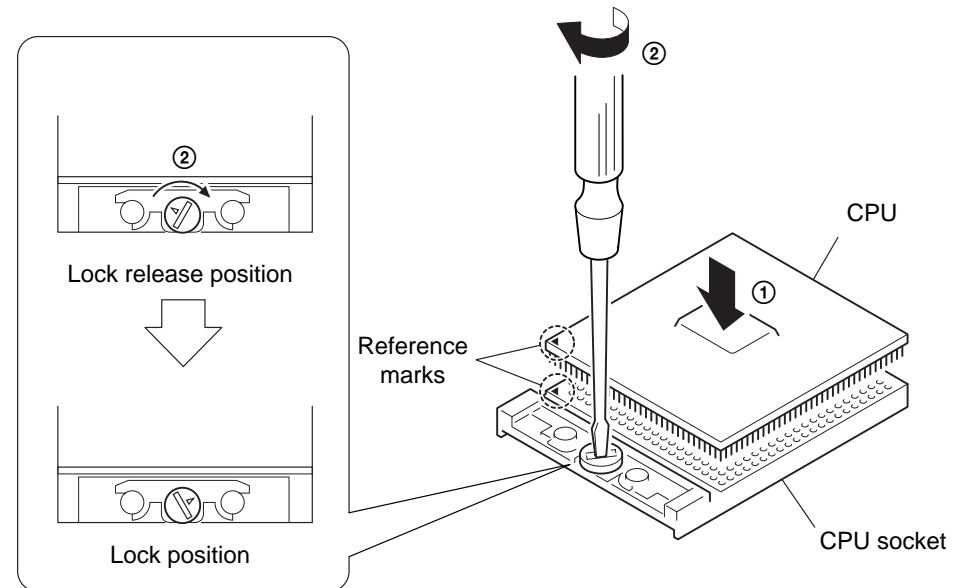
1. Removing the CPU

- ① Insert a flat-blade screwdriver into the notch as shown in the illustration and rotate it so that the protrusion comes to the lock release position.
- ② Pull the CPU gently upward to lift it out of the CPU socket.



2. Installing the CPU

- ① Align the triangle reference mark of the CPU with that of the CPU socket and insert all the pins of the CPU to the corresponding holes of the CPU socket.
- ② Insert a flat-blade screwdriver into the notch as shown in the illustration and rotate it so that the protrusion comes to the lock position.



NOTE:

Rotate a flat-blade screwdriver to the lock position securely. If not, the operation of the CPU may become unstable.

Confidential

PCG-GRT99S (J)
PCG-GRT280ZG/GRT290ZP/GRT290Z (AM)
PCG-GRT40ZP/GRT40ZLP/GRT40ZTP/GRT40ZCP (AO)

5-3. CTO Information

1. PCG-GRT290ZP

Model name : PCG-GRT290ZP(American Area)
Model Number:PCG-8N3L(With W-LAN),PCG-8N4L(W/O W-LAN)
OS:WindowsXP Pro
Ver.1.0

LCD	16.1 UXGA(Clear Black) A-8115-722-A LCD UNIT(16TFT-UXGA-HI)(S)					
CPU	M-P4-NW3.06GHz w/HT 6-803-849-01 IC RK80532HE083512SL77P					
Memory	2GB (1GBx2) 6-705-343-01 IC EBD11UD8ABDA-6B	1GB (1GBx1) 6-705-343-01 IC EBD11UD8ABDA-6B	1GB (512MBx2) 6-705-097-01 IC HYS64D64020GBDL-6-B	512MB (512MBx1) 6-705-097-01 IC HYS64D64020GBDL-6-B	512MB (256MBx2) 6-705-094-01 IC M470L3224FT0-CB3	256MB (256MBx1) 6-705-094-01 IC M470L3224FT0-CB3
HDD	80GB A-8117-058-A ASSY HDD 80GB(H,40)(S)	60GB A-8117-585-A ASSY HDD 60GB(H,40)(S)				
Optical	DVD+-RW 1-796-834-11 DVD DRIVE,DW-U50A-VN					
Battery	PCGA-BP2NY A-8120-052-A BP2NY(U)ASSY(S)					
GFX	NV31(VIF-28) A-8068-739-A COMPLETE PWB VIF-28(IN)SPG					
W-LAN	<input type="radio"/>		<input checked="" type="checkbox"/>			

2. PCG-GRT290Z

Model name : PCG-GRT290Z(American Area)
Model Number:PCG-8N3L(With W-LAN),PCG-8N4L(W/O W-LAN)
OS:WindowsXP Home
Ver.1.0

LCD	16.1 UXGA(Clear Black) A-8115-722-A LCD UNIT(16TFT-UXGA-HI)(S)					
CPU	M-P4-NW3.06GHz w/HT 6-803-849-01 IC RK80532HE083512SL77P					
Memory	2GB (1GBx2) 6-705-343-01 IC EBD11UD8ABDA-6B	1GB (1GBx1) 6-705-343-01 IC EBD11UD8ABDA-6B	1GB (512MBx2) 6-705-097-01 IC HYS64D64020GBDL-6-B	512MB (512MBx1) 6-705-097-01 IC HYS64D64020GBDL-6-B	512MB (256MBx2) 6-705-094-01 IC M470L3224FT0-CB3	256MB (256MBx1) 6-705-094-01 IC M470L3224FT0-CB3
HDD	80GB A-8117-058-A ASSY HDD 80GB(H,40)(S)	60GB A-8117-585-A ASSY HDD 60GB(H,40)(S)				
Optical	DVD+-RW 1-796-834-11 DVD DRIVE,DW-U50A-VN					
Battery	PCGA-BP2NY A-8120-052-A BP2NY(U)ASSY(S)					
GFX	NV31(VIF-28) A-8068-739-A COMPLETE PWB VIF-28(IN)SPG					
W-LAN	<input type="radio"/>		<input checked="" type="checkbox"/>			



PCG-GRT99S (J)
PCG-GRT280ZG/GRT290ZP/GRT290Z (AM)
PCG-GRT40ZP/GRT40ZLP/GRT40ZTP/GRT40ZCP (AO)

List of PCG-GRT Series (As of June, 2005)

Service Manual Part No.	Model Name			
	J	AM	EU	AO
9-876-309-XX	PCG-GRT55/B PCG-GRT77/B PCG-GRT99/P	PCG-GRT25F PCG-GRT150 PCG-GRT160 PCG-GRT170	PCG-GRT715E PCG-GRT715M PCG-GRT716S PCG-GRT785B PCG-GRT785E PCG-GRT786M PCG-GRT795MP PCG-GRT796MP PCG-GRT796SP	PCG-GRT25 PCG-GRT25CP PCG-GRT25L PCG-GRT30CP PCG-GRT30LP PCG-GRT30P
9-876-343-XX	PCG-GRT55E/B PCG-GRT5xE* PCG-GRT55E/P* PCG-GRT77E/P PCG-GRT7xE* PCG-GRT7xE/P*	PCG-GRT35F PCG-GRT230G* PCG-GRT240G PCG-GRT250G* PCG-GRT260G PCG-GRT270G* PCG-GRT270G	PCG-GRT815E PCG-GRT815M PCG-GRT816M PCG-GRT816S PCG-GRT895MP PCG-GRT896HP PCG-GRT896SP	
9-876-344-XX	PCG-GRT99S/P	PCG-GRT280ZG PCG-GRT290ZP* PCG-GRT290Z*		PCG-GRT40ZP PCG-GRT40ZLP PCG-GRT40ZTP PCG-GRT40ZCP

* : CTO Model

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Revision History

Suffix	Ver.	Date	Contents	QM No.
-01	Ver. 1	2003.12.05	First Edition	
-02	Ver. 2	2004.01.05	① Front Page (Model Line Up), Page 1-1, Page 4-1 - 4-5, Page 4-7 - 4-9, Back Cover	N2003_003AK
-03	Ver. 3	2004.01.30	② Page 4-4	N2004_008CK
-04	Ver. 4	2004.02.16	③ Front Page (Model Line Up), Page 1-1, Page 4-1 - 4-5, Page 4-7 - 4-9, Back Cover	N2004_006AK
-05	Ver. 5	2005.02.07	④ Page 4-5, Page 4-8	N2004_154CK
-06	Ver. 6	2005.06.09	⑤ Page 4-5	N2005_025CK
<Remarks>				

[Confidential]

PCG-GRT99S (J)
PCG-GRT280ZG/GRT290ZP/GRT290Z (AM)
PCG-GRT40ZP/GRT40ZLP/GRT40ZTP/GRT40ZCP (AO)